Supplementary Information

for

Two co-crystalline $M(hfac)_2(IPhIN)_2 \bullet M(hfac)_2$ (M = Mn, Co) compounds with a bis(iminoylnitroxide) biradical: structure and magnetism

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Table S1. *Selected angles (deg) for compounds **1** and **2**.*

Atoms	(**1**) (M=Mn)	(**2**) (M=Co)
Bond angles		
O6A—M1A—O2A	81.78(12)	82 (3)
O6A—M1A—O3A	108.92(12)	92 (4)
O2A—M1A—O3A	95.40(12)	102 (4)
O6A—M1A—O1A	92.96(9)	106 (4)
O2A—M1A—O1A	105.32(9)	94 (3)
O3A—M1A—O1A	151.86(9)	158 (4)
O6A—M1A—O4A	170.18(12)	93 (4)
O2A—M1A—O4A	93.40(12)	173 (4)
O3A—M1A—O4A	79.95(12)	83 (4)
O1A—M1A—O4A	80.01(8)	84 (4)
O6A—M1A—O5A	91.76(9)	172 (4)
O2A—M1A—O5A	170.41(9)	93 (3)
O3A—M1A—O5A	79.94(9)	83 (4)
O1A—M1A—O5A	82.0	80 (3)
N1A—O2A—M1A	119.9(2)	121 (7)
N5A—O6A—M1A	119.7(2)	120(8)
Torsion angles		
N1A—C17A—C18A—C23A	43.0(2)	41(20)
N4A—C24A—C22A—C21A	-24.7(1)	-27(21)
N5A—C37A—C38A—C39A	48.8(5)	48(23)
N7A—C44A—C40A—C39A	-24.1(6)	-22(24)

Figure S1. *Crystal packing of compound **1**. (a) Closest contacts N-O···N_{imino} and (b) Short contacts I···F and hydrogen bonding among nitroxide oxygen atom, imino nitrogen atom and coordinated water molecules to Mn1B (vii=1.5-x, 1/2-y,-z). Fluorine, hydrogen and carbon atoms of $hfac^-$ ligands were omitted for sake of clarity.*